



# SEQUENCE LISTING

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AOKI, KEI R

<120> Leucine-based motif and clostridial neurotoxins

<130> D-2885CIP

<150> US 09/620,840

<151> 2000-07-21

<160> 23

<170> PatentIn version 3.1

<210> 1

<211> 7

<212> PRT

<213> Artificial

<220>

<221> MISC\_FEATURE

<222> (1)..(5)

<223> Description of Artificial Sequence: fragment having properties substantially similar to that of leucine based sequence  
x may be any amino acid or derivatives thereof

<400> 1

Xaa Asp Xaa Xaa Xaa Leu Leu

1

5

<210> 2

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<212> PRT

<213> Artificial

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<222> (1)..(5)

<223> Description of Artificial Sequence: fragment having properties substantially similar to leucine based motif  
x may be any amino acid or derivatives thereof

<400> 2

Xaa Glu Xaa Xaa Xaa Leu Leu

1

5

<210> 3

<211> 7

<212> PRT

<213> Artificial

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<223> Description of Artificial Sequence: fragment having properties substantially similar to that of leucine based motif

<220>  
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<222> (1)..(5)  
<223> X may be any amino acid or derivatives thereof

<400> 3

Xaa Asp Xaa Xaa Xaa Leu Ile  
1 5

<210> 4  
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<223> X may be any amino acid or derivatives thereof

<400> 4

Xaa Asp Xaa Xaa Xaa Leu Met  
1 5

<210> 5  
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<220>  
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<223> X may be any amino acid or derivatives thereof

<400> 5

Xaa Glu Xaa Xaa Xaa Leu Ile  
1 5

<210> 6

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<212> PRT

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<222> (1)..(5)

<223> Description of Unknown Organism: This fragment may have come from  
a rat source.

<220>

<221> MISC\_FEATURE

<222> (1)..(5)

<223> X may be any amino acid or derivatives thereof

<400> 6

Xaa Glu Xaa Xaa Xaa Leu Met  
1 5

<210> 7

<211> 7

<212> PRT

<213> Unknown

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<223> Description of Unknown Organism: This fragment may have come from  
a rat source.

<400> 7

Phe Glu Phe Tyr Lys Leu Leu  
1 5

<210> 8

<211> 7

<212> PRT

<213> rat

<400> 8

Glu Glu Lys Arg Ala Ile Leu  
1 5

<210> 9

<211> 7

<212> PRT  
<213> rat

<400> 9

Glu Glu Lys Met Ala Ile Leu  
1 5

<210> 10  
<211> 7  
<212> PRT  
<213> rat

<400> 10

Ser Glu Arg Asp Val Leu Leu  
1 5

<210> 11  
<211> 7  
<212> PRT  
<213> rat

<400> 11

Val Asp Thr Gln Val Leu Leu  
1 5

<210> 12  
<211> 7  
<212> PRT  
<213> mouse

<400> 12

Ala Glu Val Gln Ala Leu Leu  
1 5

<210> 13  
<211> 7  
<212> PRT  
<213> frog

<400> 13

Ser Asp Lys Gln Asn Leu Leu  
1 5

<210> 14  
<211> 7  
<212> PRT  
<213> chicken

<400> 14

Ser Asp Arg Gln Asn Leu Ile  
1 5

<210> 15  
<211> 7  
<212> PRT  
<213> sheep

<400> 15

Ala Asp Thr Gln Val Leu Met  
1 5

<210> 16  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 16

Ser Asp Lys Gln Thr Leu Leu  
1 5

<210> 17  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 17

Ser Gln Ile Lys Arg Leu Leu  
1 5

<210> 18  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 18

Ala Asp Thr Gln Ala Leu Leu  
1 5

<210> 19  
<211> 437  
<212> PRT  
<213> Clostridium botulinum

<400> 19

Pro Phe Val Asn Lys Gln Phe Asn Tyr Lys Asp Pro Val Asn Gly Val  
1 5 10 15

Asp Ile Ala Tyr Ile Lys Ile Pro Asn Val Gly Gln Met Gln Pro Val

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Lys	Ala	Phe	Lys	Ile	His	Asn	Lys	Ile	Trp	Val	Ile	Pro	Glu	Arg	Asp	
		35					40					45				
Thr	Phe	Thr	Asn	Pro	Glu	Glu	Gly	Asp	Leu	Asn	Pro	Pro	Pro	Glu	Ala	
	50					55					60					
Lys	Gln	Val	Pro	Val	Ser	Tyr	Tyr	Asp	Ser	Thr	Tyr	Leu	Ser	Thr	Asp	
65					70					75					80	
Asn	Glu	Lys	Asp	Asn	Tyr	Leu	Lys	Gly	Val	Thr	Lys	Leu	Phe	Glu	Arg	
				85					90					95		
Ile	Tyr	Ser	Thr	Asp	Leu	Gly	Arg	Met	Leu	Leu	Thr	Ser	Ile	Val	Arg	
			100					105					110			
Gly	Ile	Pro	Phe	Trp	Gly	Gly	Ser	Thr	Ile	Asp	Thr	Glu	Leu	Lys	Val	
		115					120					125				
Ile	Asp	Thr	Asn	Cys	Ile	Asn	Val	Ile	Gln	Pro	Asp	Gly	Ser	Tyr	Arg	
	130					135					140					
Ser	Glu	Glu	Leu	Asn	Leu	Val	Ile	Ile	Gly	Pro	Ser	Ala	Asp	Ile	Ile	
145					150					155					160	
Gln	Phe	Glu	Cys	Lys	Ser	Phe	Gly	His	Glu	Val	Leu	Asn	Leu	Thr	Arg	
				165					170					175		
Asn	Gly	Tyr	Gly	Ser	Thr	Gln	Tyr	Ile	Arg	Phe	Ser	Pro	Asp	Phe	Thr	
			180					185					190			
Phe	Gly	Phe	Glu	Glu	Ser	Leu	Glu	Val	Asp	Thr	Asn	Pro	Leu	Leu	Gly	
		195					200					205				
Ala	Gly	Lys	Phe	Ala	Thr	Asp	Pro	Ala	Val	Thr	Leu	Ala	His	Glu	Leu	
	210					215					220					
Ile	His	Ala	Gly	His	Arg	Leu	Tyr	Gly	Ile	Ala	Ile	Asn	Pro	Asn	Arg	
225					230					235					240	
Val	Phe	Lys	Val	Asn	Thr	Asn	Ala	Tyr	Tyr	Glu	Met	Ser	Gly	Leu	Glu	
				245					250					255		
Val	Ser	Phe	Glu	Glu	Leu	Arg	Thr	Phe	Gly	Gly	His	Asp	Ala	Lys	Phe	

260

265

270

Ile Asp Ser Leu Gln Glu Asn Glu Phe Arg Leu Tyr Tyr Tyr Asn Lys  
 275 280 285

Phe Lys Asp Ile Ala Ser Thr Leu Asn Lys Ala Lys Ser Ile Val Gly  
 290 295 300

Thr Thr Ala Ser Leu Gln Tyr Met Lys Asn Val Phe Lys Glu Lys Tyr  
 305 310 315 320

Leu Leu Ser Glu Asp Thr Ser Gly Lys Phe Ser Val Asp Lys Leu Lys  
 325 330 335

Phe Asp Lys Leu Tyr Lys Met Leu Thr Glu Ile Tyr Thr Glu Asp Asn  
 340 345 350

Phe Val Lys Phe Phe Lys Val Leu Asn Arg Lys Thr Tyr Leu Asn Phe  
 355 360 365

Asp Lys Ala Val Phe Lys Ile Asn Ile Val Pro Lys Val Asn Tyr Thr  
 370 375 380

Ile Tyr Asp Gly Phe Asn Leu Arg Asn Thr Asn Leu Ala Ala Asn Phe  
 385 390 395 400

Asn Gly Gln Asn Thr Glu Ile Asn Asn Met Asn Phe Thr Lys Leu Lys  
 405 410 415

Asn Phe Thr Gly Leu Phe Glu Phe Tyr Lys Leu Leu Cys Val Arg Gly  
 420 425 430

Ile Ile Thr Ser Lys  
 435

<210> 20

<211> 441

<212> PRT

<213> Clostridium botulinum

<400> 20

Met Pro Val Thr Ile Asn Asn Phe Asn Tyr Asn Asp Pro Ile Asp Asn  
 1 5 10 15

Asn Asn Ile Ile Met Met Glu Pro Pro Phe Ala Arg Gly Thr Gly Arg  
 20 25 30

Tyr Tyr Lys Ala Phe Lys Ile Thr Asp Arg Ile Trp Ile Ile Pro Glu  
 35 40 45

Arg Tyr Thr Phe Gly Tyr Lys Pro Glu Asp Phe Asn Lys Ser Ser Gly  
 50 55 60

Ile Phe Asn Arg Asp Val Cys Glu Tyr Tyr Asp Pro Asp Tyr Leu Asn  
 65 70 75 80

Thr Asn Asp Lys Lys Asn Ile Phe Leu Gln Thr Met Ile Lys Leu Phe  
 85 90 95

Asn Arg Ile Lys Ser Lys Pro Leu Gly Glu Lys Leu Leu Glu Met Ile  
 100 105 110

Ile Asn Gly Ile Pro Tyr Leu Gly Asp Arg Arg Val Pro Leu Glu Glu  
 115 120 125

Phe Asn Thr Asn Ile Ala Ser Val Thr Val Asn Lys Leu Ile Ser Asn  
 130 135 140

Pro Gly Glu Val Glu Arg Lys Lys Gly Ile Phe Ala Asn Leu Ile Ile  
 145 150 155 160

Phe Gly Pro Gly Pro Val Leu Asn Glu Asn Glu Thr Ile Asp Ile Gly  
 165 170 175

Ile Gln Asn His Phe Ala Ser Arg Glu Gly Phe Gly Gly Ile Met Gln  
 180 185 190

Met Lys Phe Cys Pro Glu Tyr Val Ser Val Phe Asn Asn Val Gln Glu  
 195 200 205

Asn Lys Gly Ala Ser Ile Phe Asn Arg Arg Gly Tyr Phe Ser Asp Pro  
 210 215 220

Ala Leu Ile Leu Met His Glu Leu Ile His Val Leu His Gly Leu Tyr  
 225 230 235 240

Gly Ile Lys Val Asp Asp Leu Pro Ile Val Pro Asn Glu Lys Lys Phe  
 245 250 255

Phe Met Gln Ser Thr Asp Ala Ile Gln Ala Glu Glu Leu Tyr Thr Phe  
 260 265 270

Gly Gly Gln Asp Pro Ser Ile Ile Thr Pro Ser Thr Asp Lys Ser Ile  
275 280 285

Tyr Asp Lys Val Leu Gln Asn Phe Arg Gly Ile Val Asp Arg Leu Asn  
290 295 300

Lys Val Leu Val Cys Ile Ser Asp Pro Asn Ile Asn Ile Asn Ile Tyr  
305 310 315 320

Lys Asn Lys Phe Lys Asp Lys Tyr Lys Phe Val Glu Asp Ser Glu Gly  
325 330 335

Lys Tyr Ser Ile Asp Val Glu Ser Phe Asp Lys Leu Tyr Lys Ser Leu  
340 345 350

Met Phe Gly Phe Thr Glu Thr Asn Ile Ala Glu Asn Tyr Lys Ile Lys  
355 360 365

Thr Arg Ala Ser Tyr Phe Ser Asp Ser Leu Pro Pro Val Lys Ile Lys  
370 375 380

Asn Leu Leu Asp Asn Glu Ile Tyr Thr Ile Glu Glu Gly Phe Asn Ile  
385 390 395 400

Ser Asp Lys Asp Met Glu Lys Glu Tyr Arg Gly Gln Asn Lys Ala Ile  
405 410 415

Asn Lys Gln Ala Tyr Glu Glu Ile Ser Lys Glu His Leu Ala Val Tyr  
420 425 430

Lys Ile Gln Met Cys Lys Ser Val Lys  
435 440

<210> 21

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic peptide fragment

<400> 21

Lys Ala Phe Lys

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<210> 22  
<211> 6  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic peptide fragment

<400> 6

Phe Asp Lys Leu Tyr Lys  
1 5

<210> 23  
<211> 4  
<212> PRT  
<213> Artificial

<220>  
<221> MISC\_FEATURE  
<222> (2)..(3)  
<223> Xaa may be any amino acid or derivatives thereof

<220>  
<221> MISC\_FEATURE  
<222> (4)..(4)  
<223> Xaa may be any hydrophobic amino acid

<400> 4

Tyr Xaa Xaa Xaa  
1